

Cooperative Agricultural Pest Survey (CAPS)

Utah Department of
Agriculture and Food



Invasive Pest Detection and Eradication

- Global Trade
- Military Operations
- Transportation Networks
- All Associated With Increased Risk Of Invasive Species Transport



What Is An Invasive Species?

- Non-native (or alien) to the ecosystem
- Introduction causes economic or environmental harm or harm to human health



Economic Impact

- Pimentel et al. (1999) estimated that the total costs of invasive species in the United States amount to more than \$100 billion each year.



Survey Programs

- African Honey Bee
- False Codling Moth
- Gypsy Moth
- Japanese Beetle
- Mormon Cricket & Grasshopper
- Red Imported Fire Ant
- Siberian Silk Moth
- Wood Borer & Bark Beetle

What Am I???



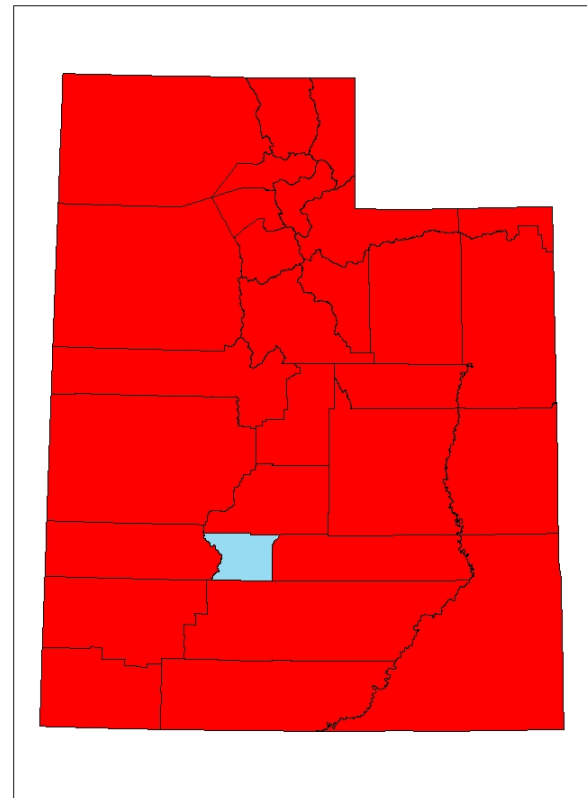
Gypsy Moth

- Defoliator
- Potential To Destroy Watersheds, Forests, And Residential Landscapes
- Has A History Of Infestation In Utah



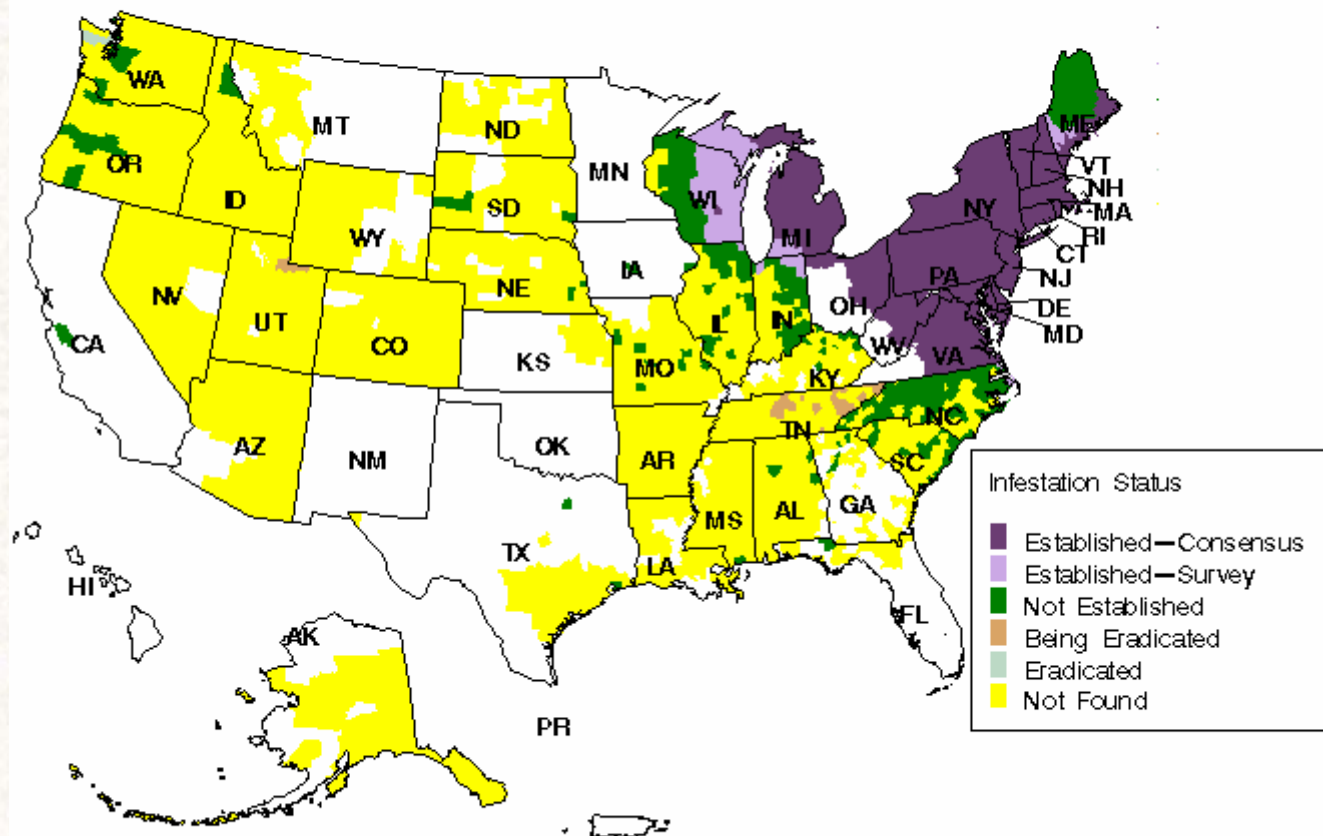
Gypsy Moth and Asian Gypsy Moth

- 28 Counties
- 3055 Traps
- Two 500 Foot Grids
- One 115 Foot Grid
- 2005 - One Moth Caught In Summit Co.
- 2006 - Zero Moth Catches



Reported Status of
GYPSY MOTH (EUROPEAN)(GM) , LYMANTRIA DISPAR
 in US and Puerto Rico (01/01/2005–12/31/2005)

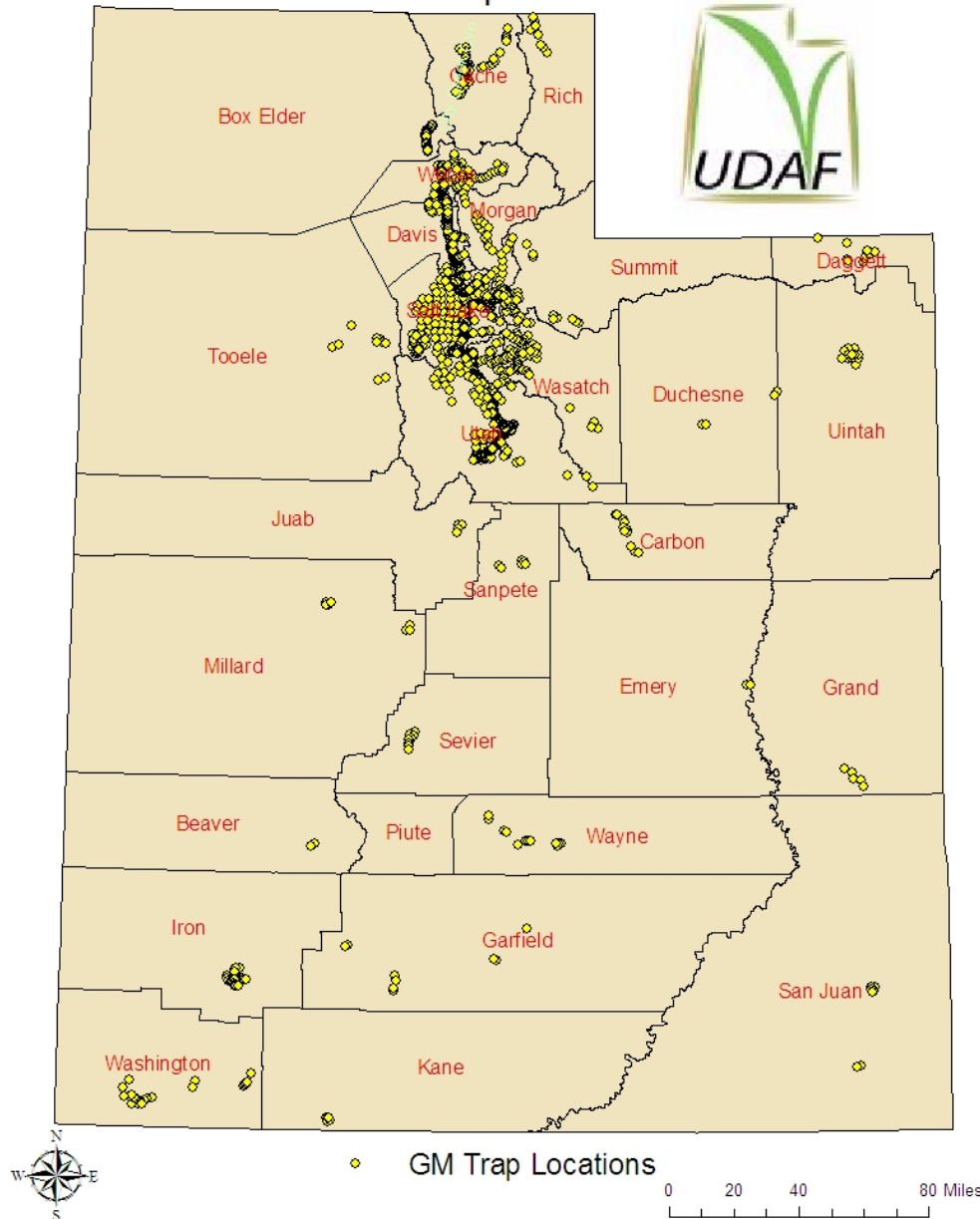
Data retrieved from National Agricultural Pest Information System on 03/08/2006



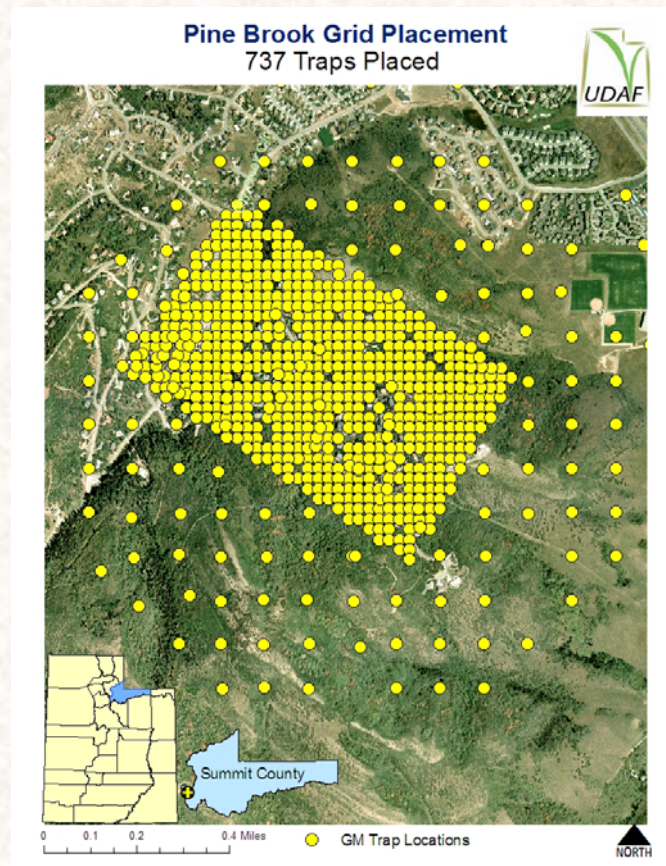
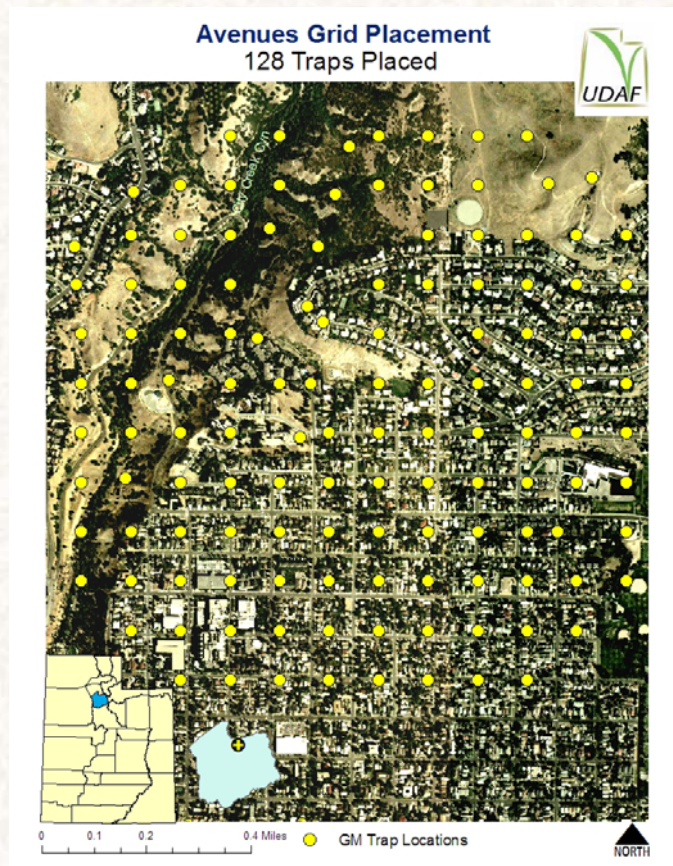
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State Trap Placements

3055 Traps Placed

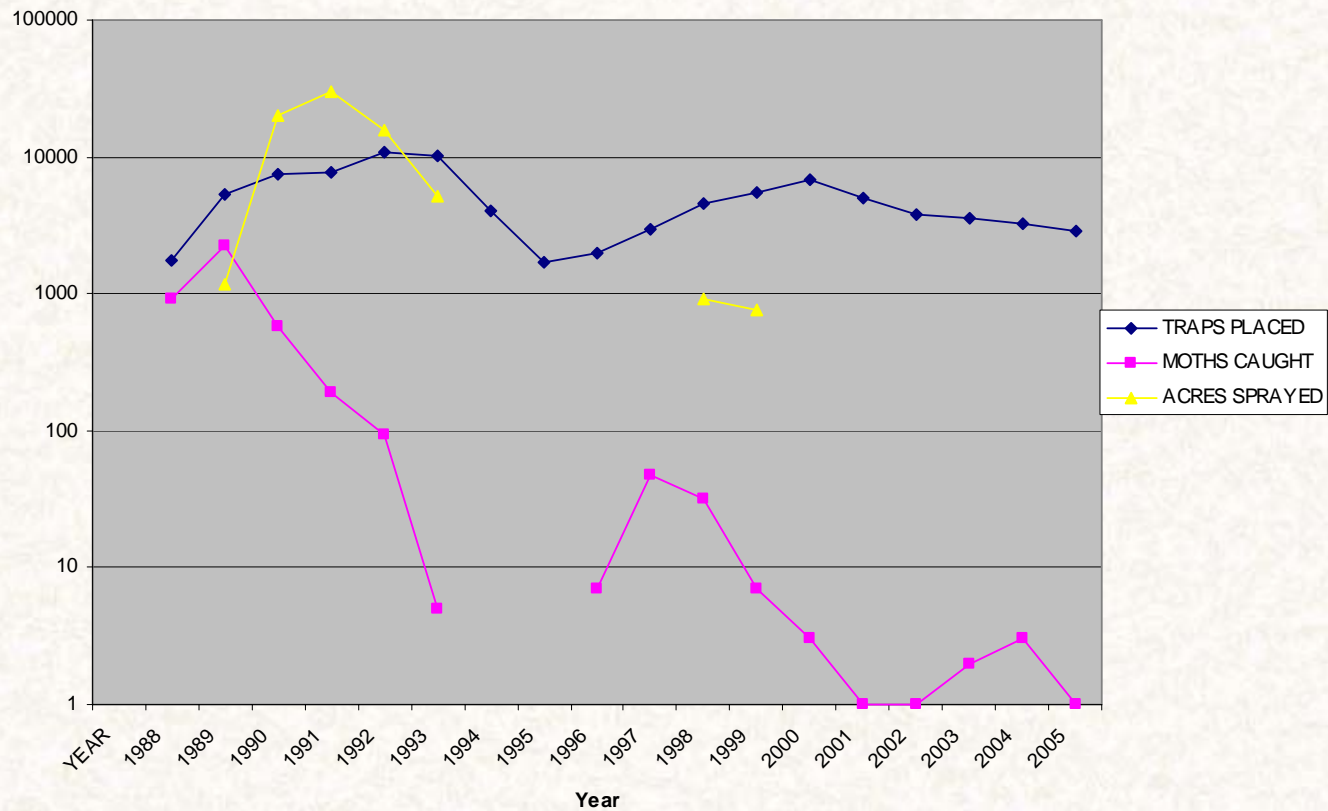


Trap Grids

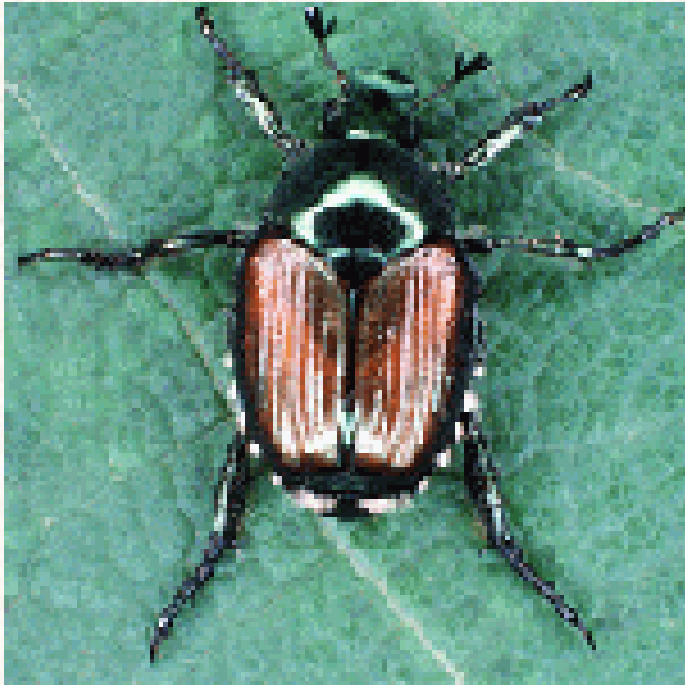


Utah Historical Gypsy Moth

1988-2005

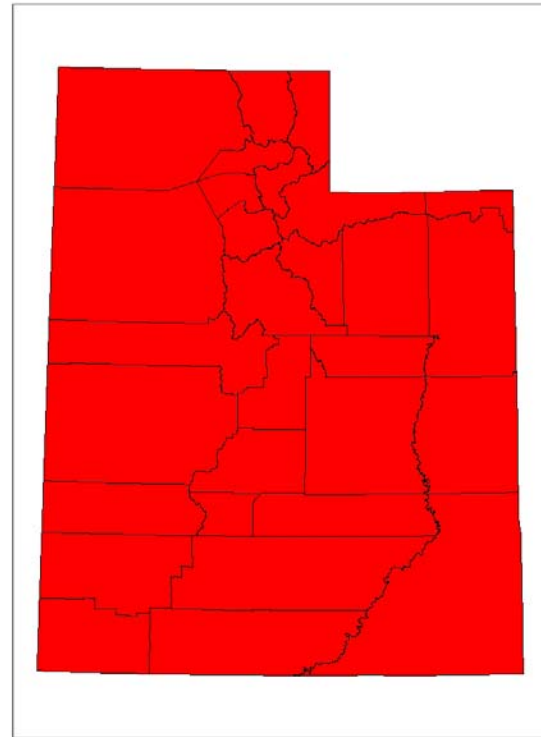


What Am I??



Japanese Beetle

- Wide Variety Of Hosts For Adults
- Turf Pest In Larval State
- Risk To Many Industries In Utah
- All 29 Counties
- 2006 First Year Of Utah Infestation



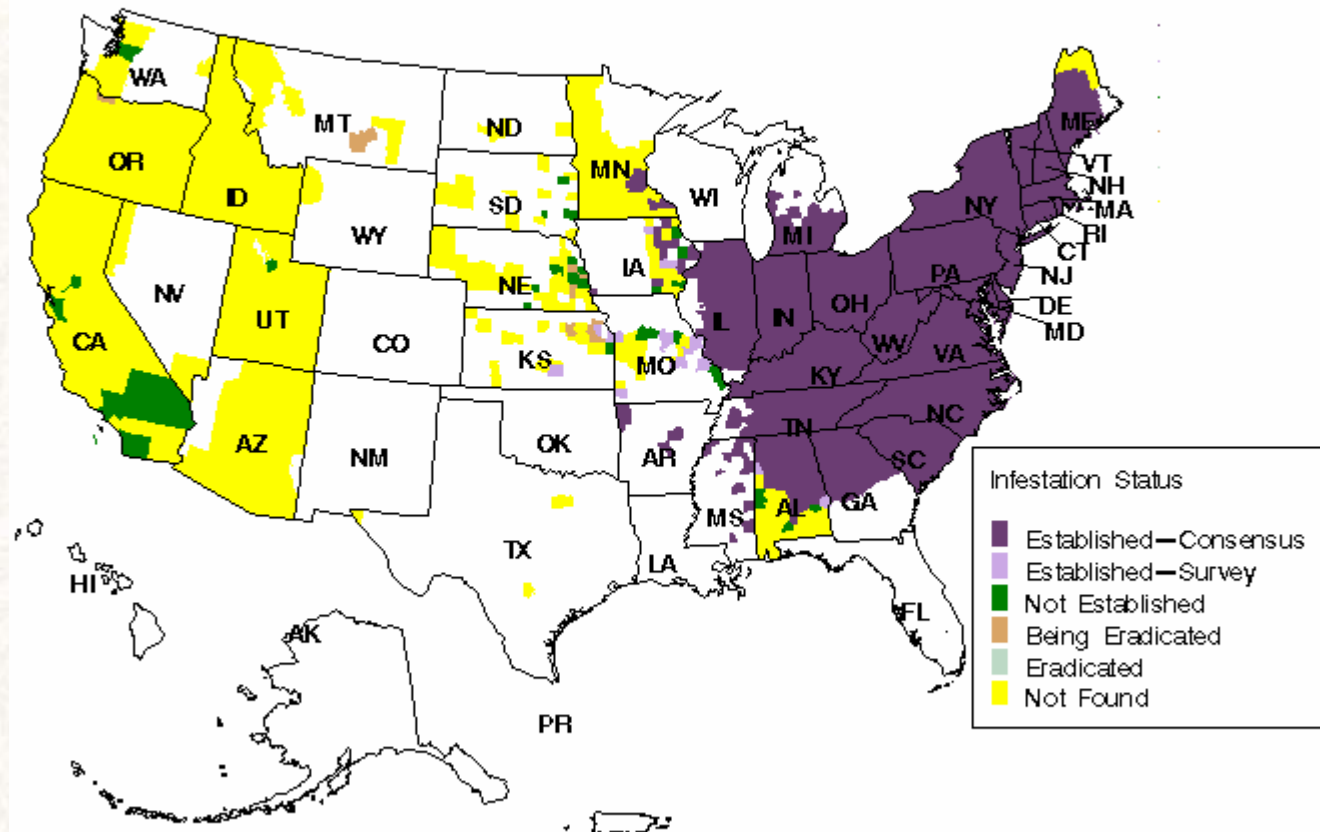
JB History in Utah

- 500 Detection Traps Statewide for 8 years
- 1 JB Found at SL International Airport in 2005. Hitch-hiker
- JB Found in Orem July 2006
- 100 Delimiting Traps Set to Determine Extent of Infestation
- 672 JB's Caught
- 2007 Treatment Planned



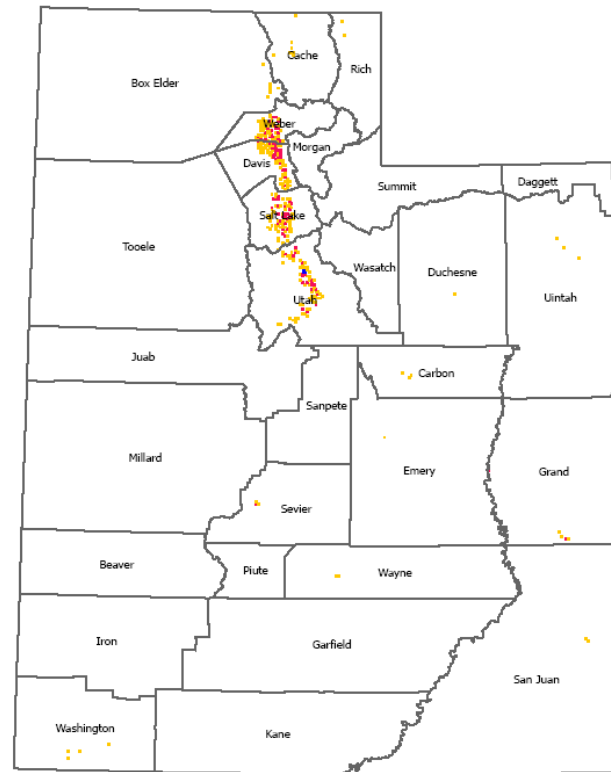
in US and Puerto Rico (01/01/2005-12/31/2005)

Data retrieved from National Agricultural Pest Information System on 02/11/2006



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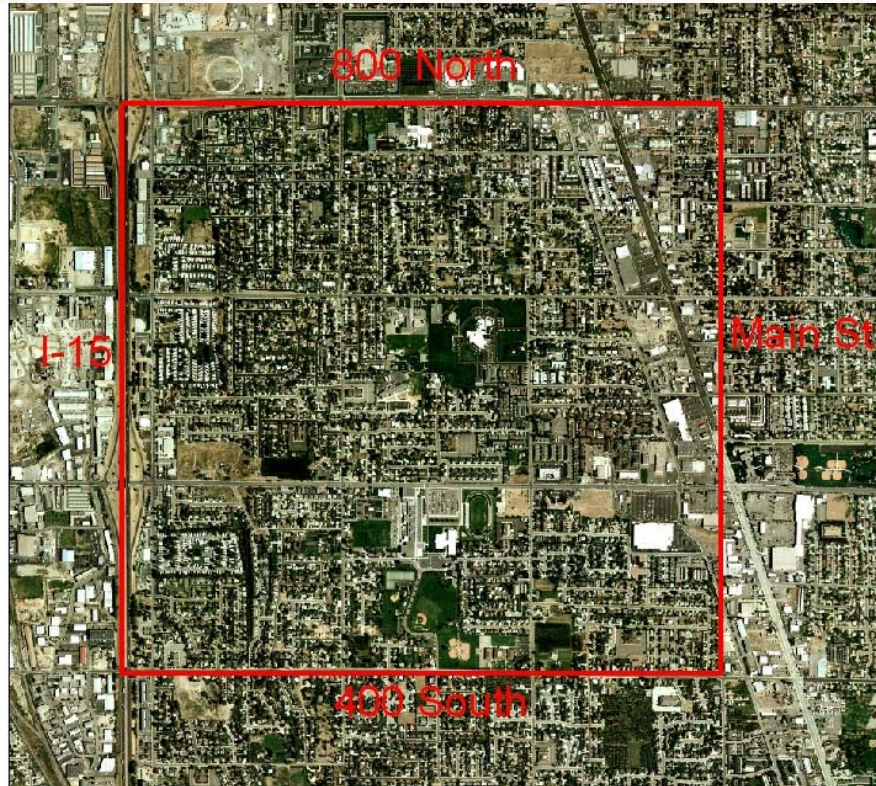
Traps Statewide



Traps By County

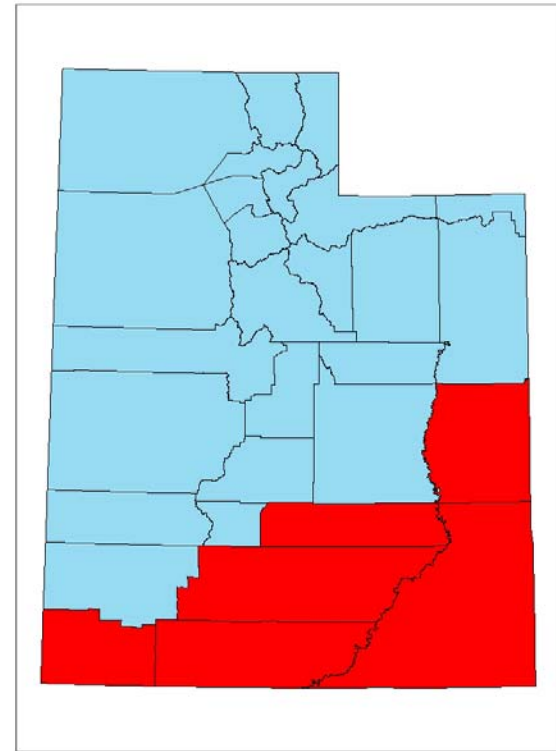
Number of Traps		
County	Detection	Delimiting
Box Elder	7	
Cache	8	
Carbon	3	
Davis	121	
Duchesne	1	
Emery	1	
Grand	7	
Rich	2	
Salt Lake	116	
San Juan	2	
Sevier	6	
Uintah	3	
Utah	99	100
Washington	4	
Wayne	2	
Weber	99	

Recommended Quarantine Area Orem Utah

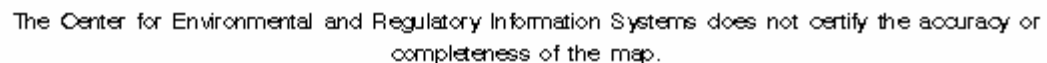


Africanized Honey Bee

- Public health threat
- State funded survey program
- 125 traps in six counties
- Protect Utah's bee-keeping industry

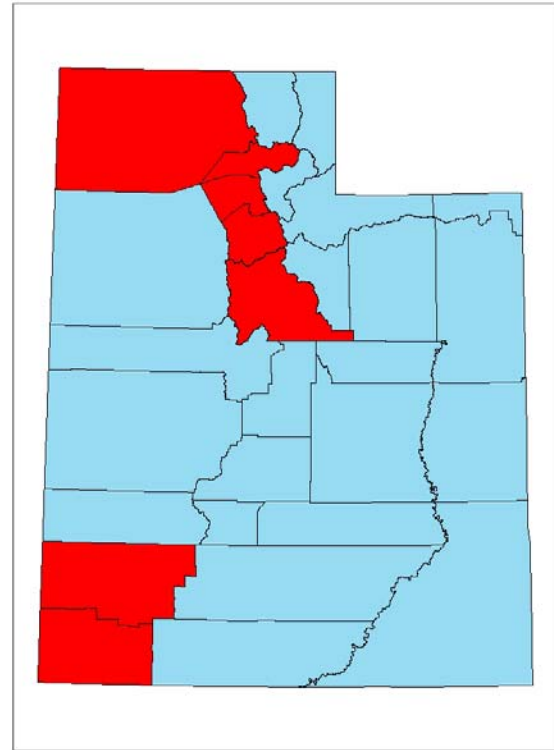


Data retrieved from National Agricultural Pest Information System on 02/11/2006



False Codling Moth

- Host Material – Oak (All Species), Peach, Corn, Grape, And Many Others
- 504 Traps
- 7 Counties



False Codling Moth

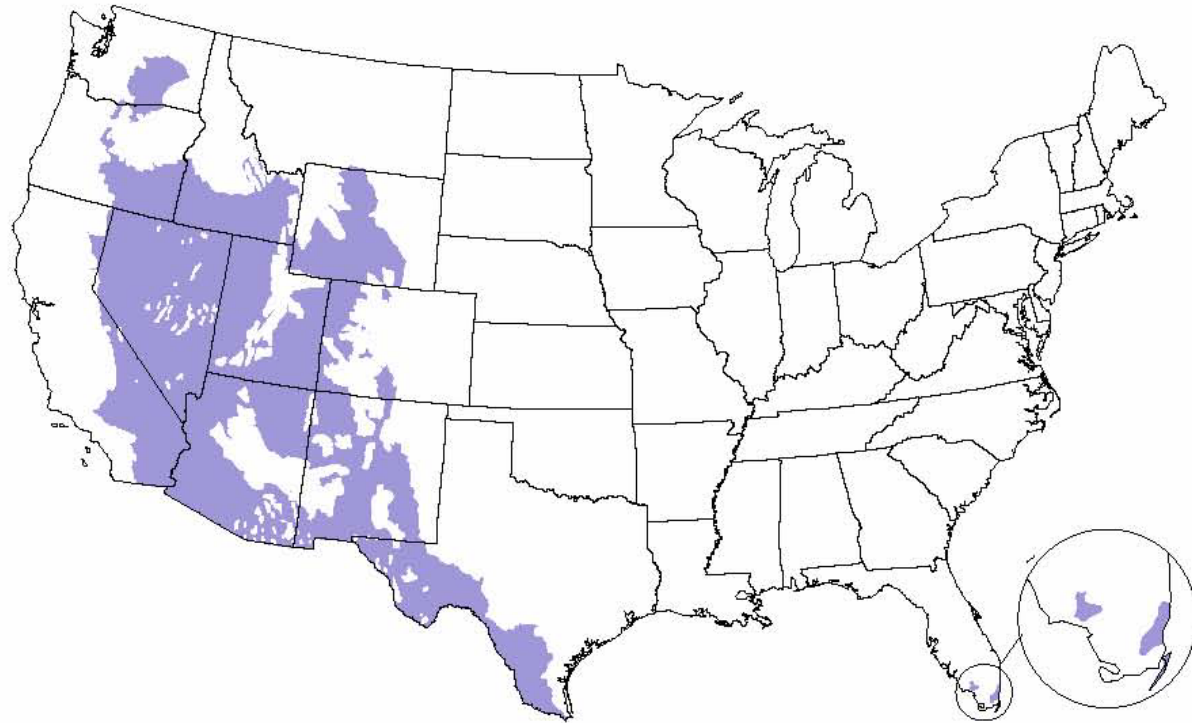
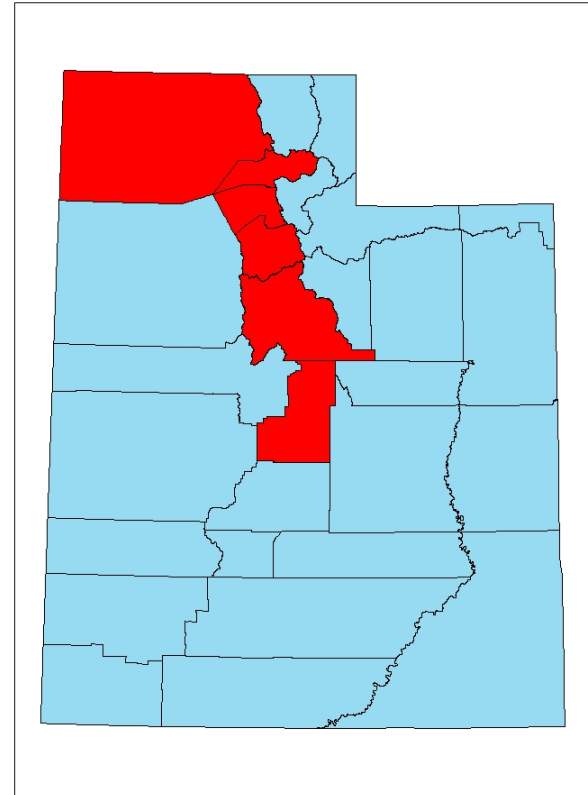


Figure 2. Predicted distribution of *Thaumatotibia leucotreta* in the continental US. Southern Florida is enlarged for detail.

Siberian Silk Moth

- Defoliator Of Conifers
- 123 Trap Locations
- 6 Counties





UGA1335021



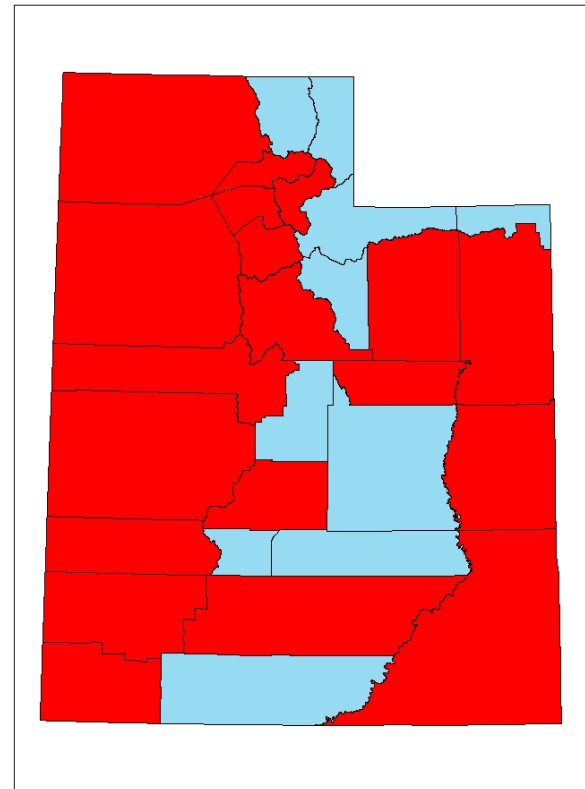
UGA1335019

Wood Borer & Bark Beetle



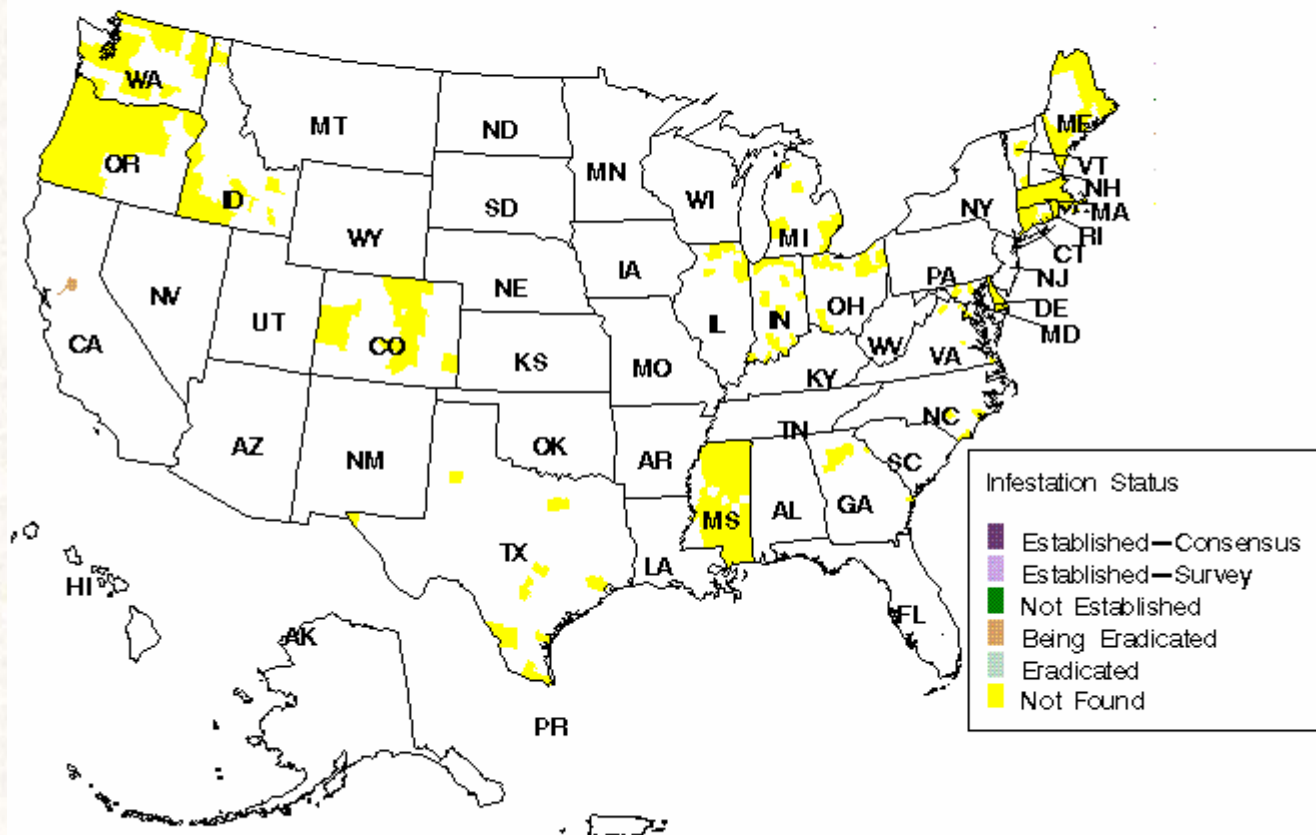
Wood Borer & Bark Beetle

- 33 Trap Locations, 3 Traps Per Location
- 99 Total Traps
- 19 Counties
- Target Species
 - Order Coleoptera
 - Families
 - Buprestidae
 - Cerambycidae
 - Subfamily
 - Scolytinae
 - Order Hymenoptera
 - Family
 - Siricidae



Reported Status of
ASIAN CERAMBYCID (LH.) BEETLE , ANOPLOPHORA GLABRIPENNIS (LONGHORNED)
 in US and Puerto Rico (01/01/2005—12/31/2005)

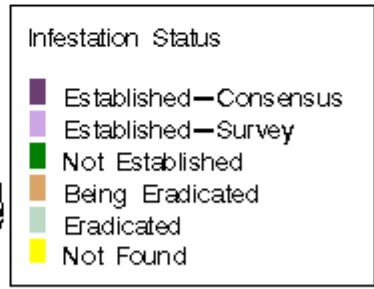
Data retrieved from National Agricultural Pest Information System on 03/18/2006



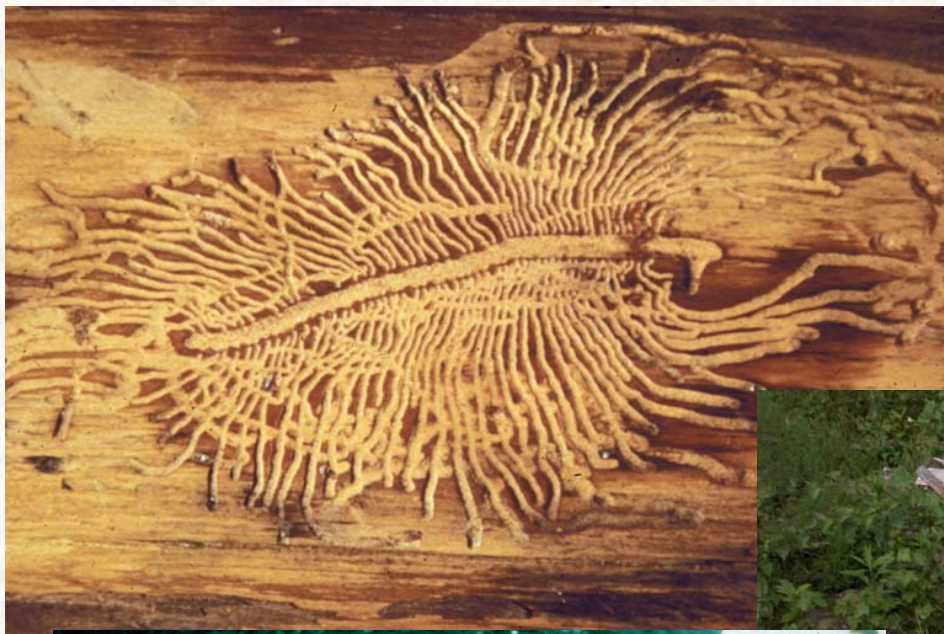
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in US and Puerto Rico

Data retrieved from National Agricultural Pest Information System on 08/28/2006

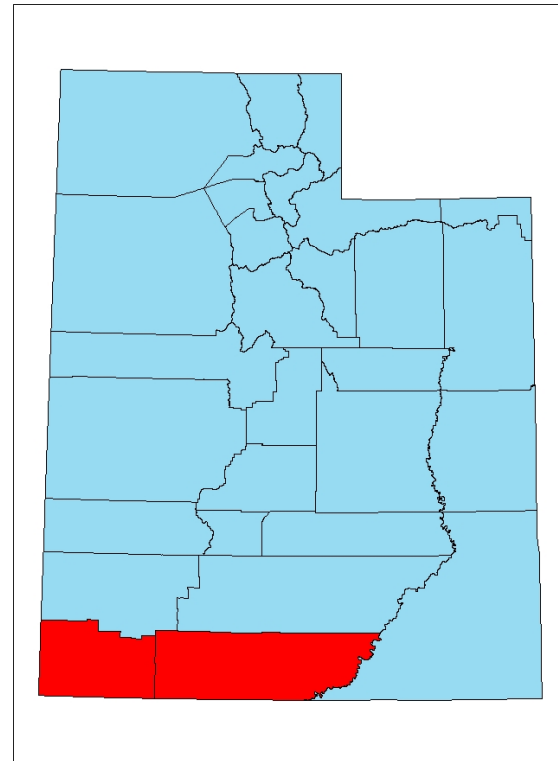


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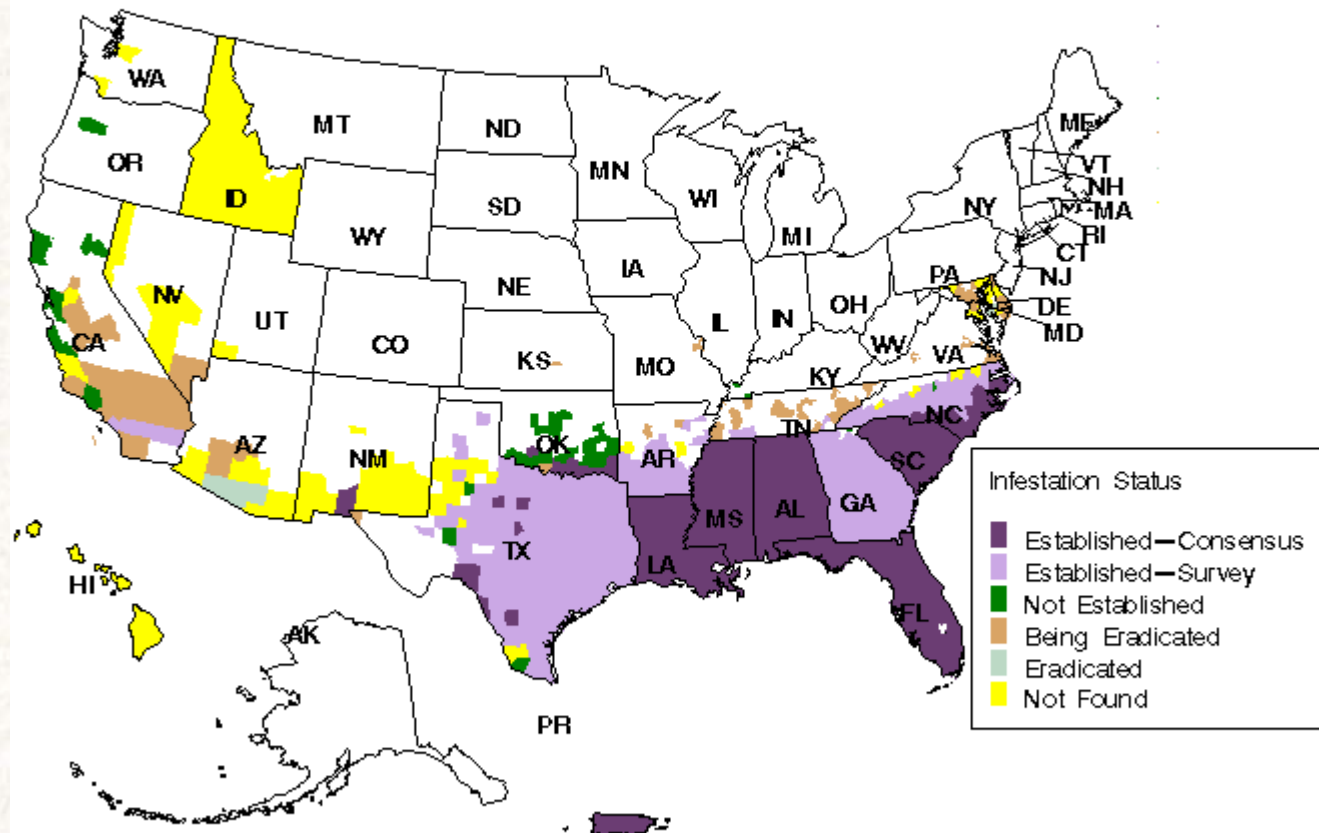
Imported Fire Ant

- 28 Pitfall Traps - Kane County
- 30 Pitfall Traps - Washington County
- 159 Ants Identified
- 6 Genera
- Zero Positives



Reported Status of
RED IMPORTED FIRE ANT (IFA) , SOLENOPSIS INVICTA
 in US and Puerto Rico

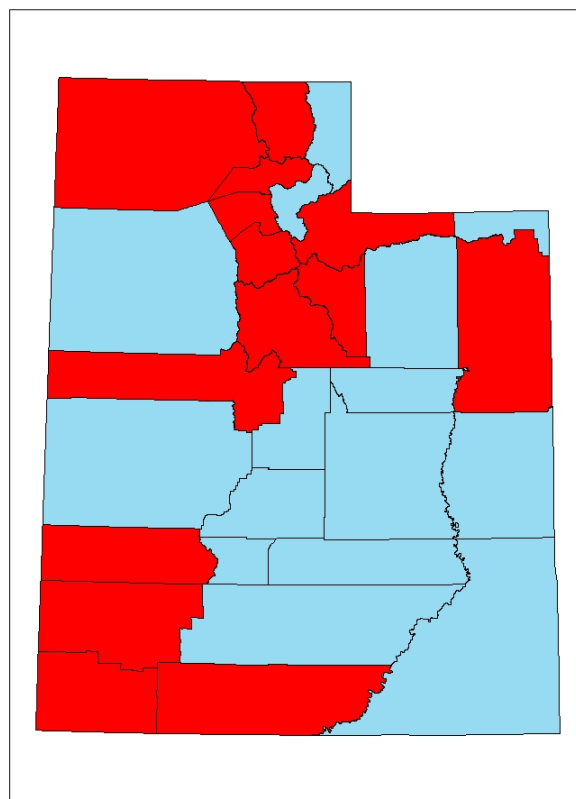
Data retrieved from National Agricultural Pest Information System on 03/14/2006



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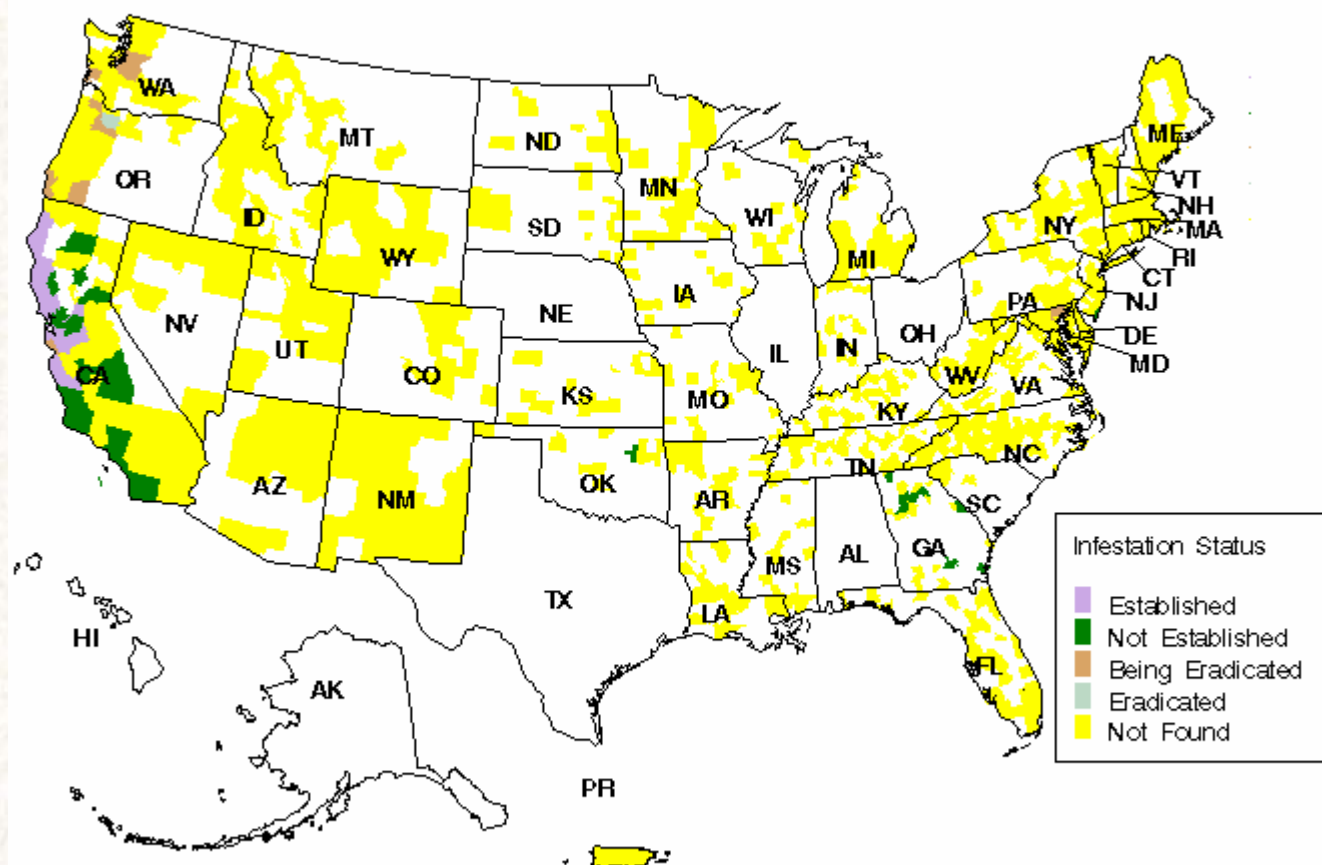
Sudden Oak Death

- 14 counties
- 419 Survey Sites



Reported Status of
SUDDEN OAK DEATH MATING TYPE 2 , PHYTOPHTHORA RAMORUM
in US and Puerto Rico

Data retrieved from National Agricultural Pest Information System on 12/28/2004



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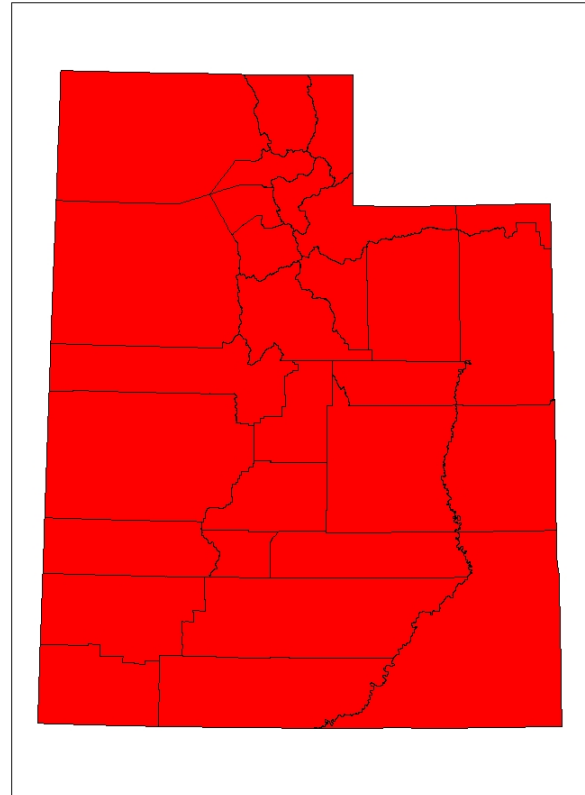
Native Pests

- Mormon Cricket
- Grasshoppers (Various Species)

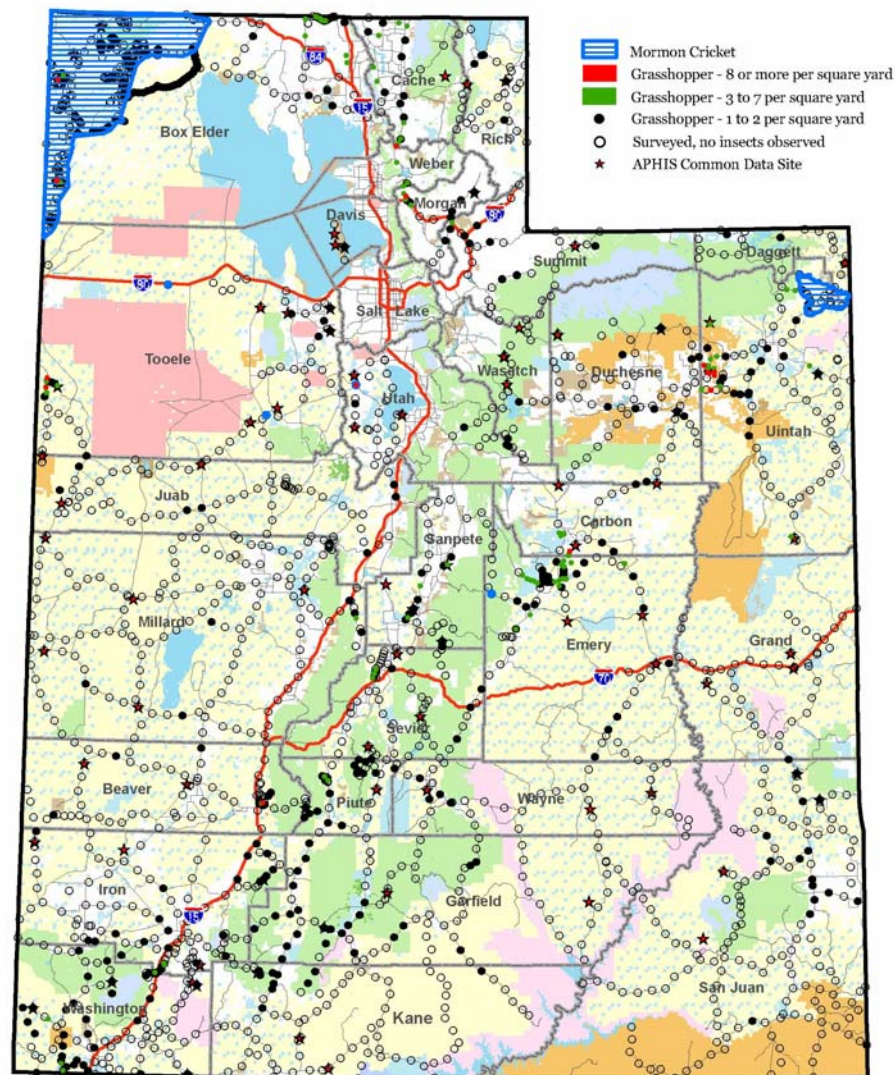


Survey Info

- 29 Counties
- 1,975 Survey Sites
- 64% Increase In Mormon Cricket Infested Acreage
- 50% Decrease In Grasshopper Infested Acreage



Utah 2006 Grasshopper and Mormon Cricket Survey



- | | | |
|---------------------|---------------------------|--------------------------------------------------|
| County boundary | Bankhead-Jones | Private |
| Major road | Bureau of Land Management | State |
| Other road | Indian Reservation | State/Local Wildlife, Park or Outdoor Recreation |
| Water body | Military Reservation | National Wildlife Refuge |
| BLM/USFS Wilderness | National Park Service | US Forest Service |

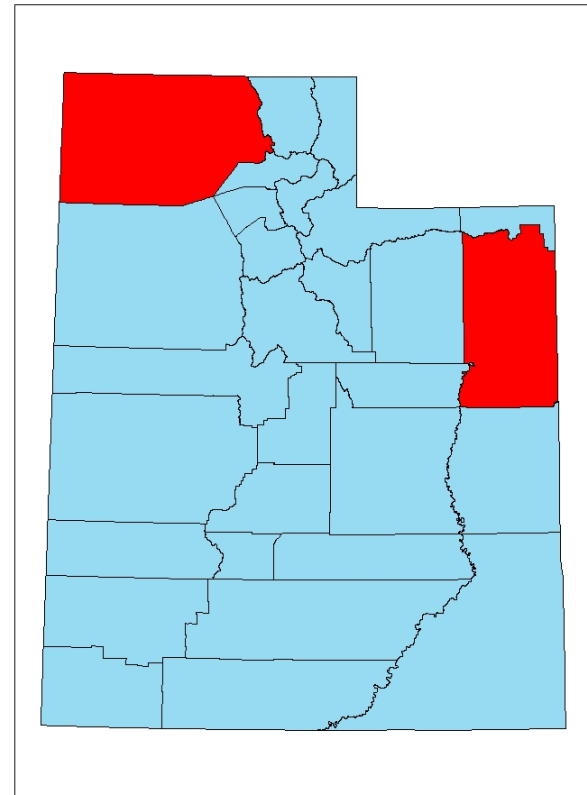


2006 Total Infested Acreage

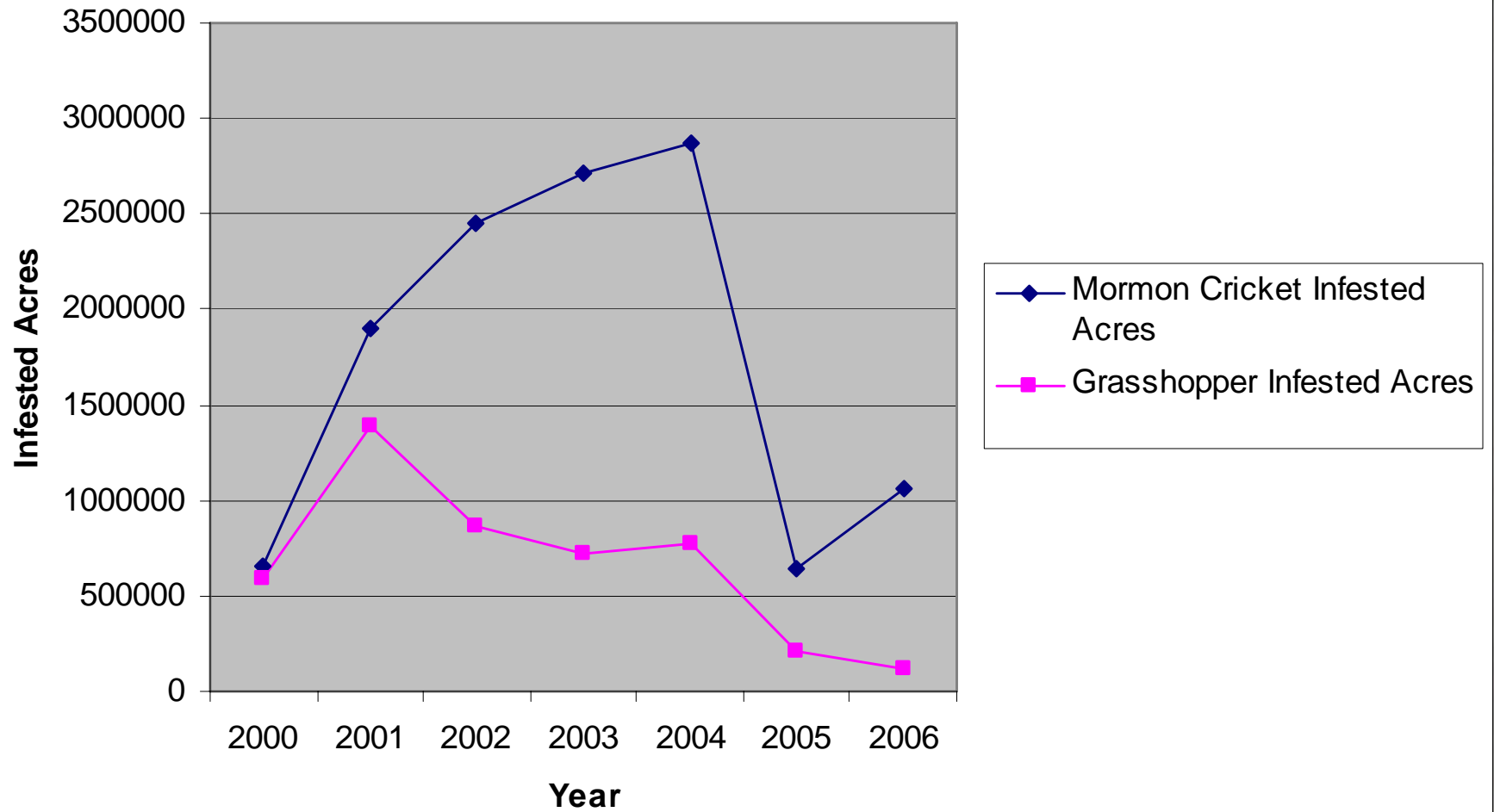
- Mormon Cricket
 - 1,055,820 Acres
- Grasshopper
 - 112,070 Acres



Box Elder And Uintah
Counties

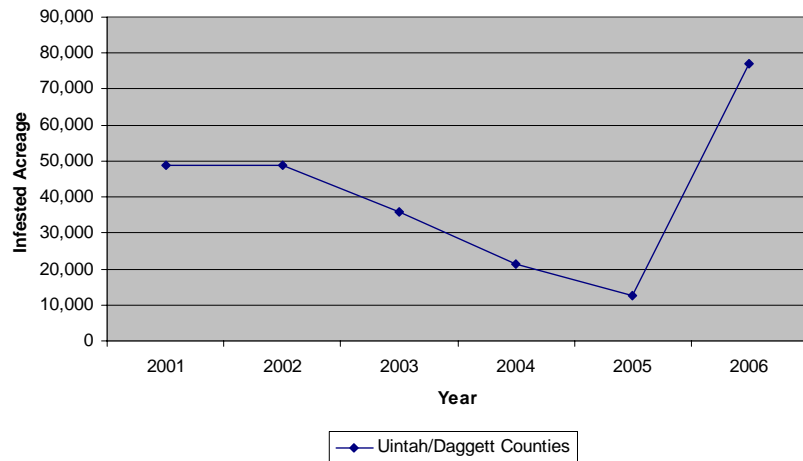


Infested Acreage Over Time

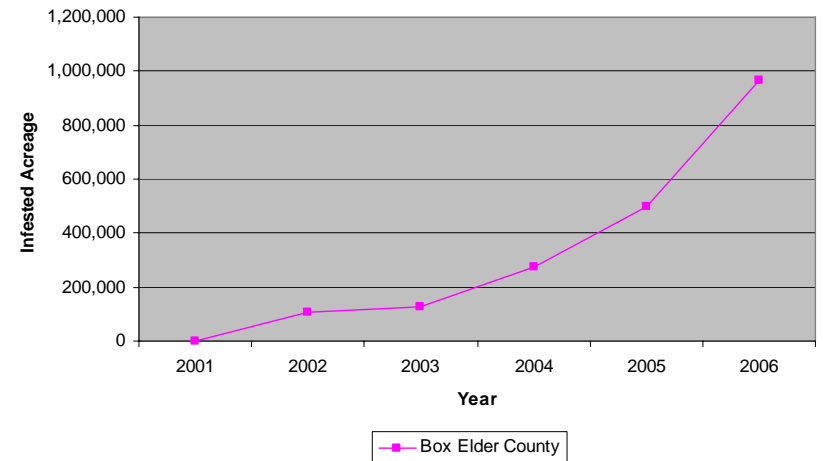


Results

Uintah/Daggett Counties



Box Elder County Infested Acreage

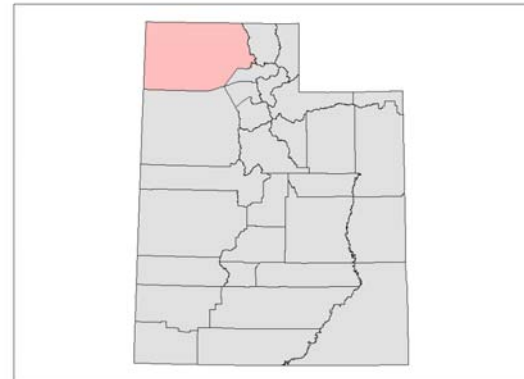


2006 Suppression Acreage

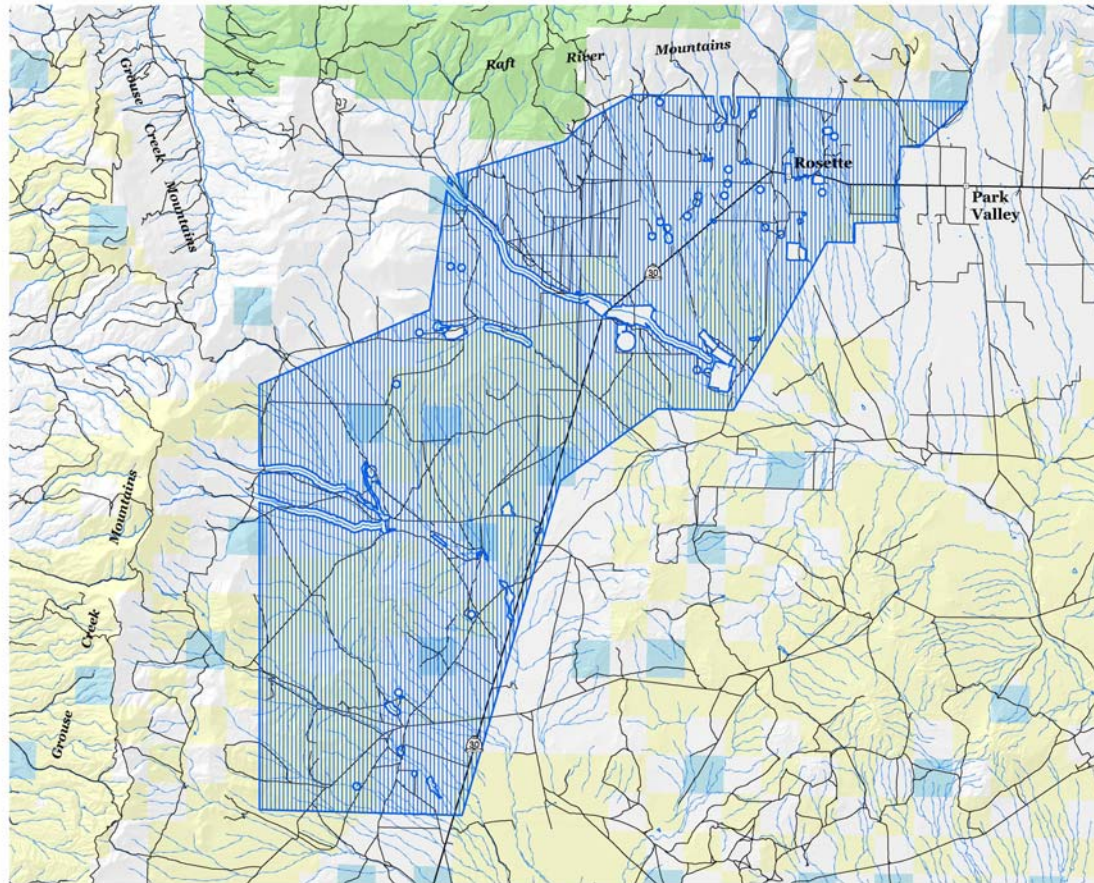
- Aerial - 49,404 Acres
- Ground - 6,280 Acres



Box Elder County



2006 Mormon Cricket Treatment Area
Box Elder County, Utah



-  2006 Treatment Area
-  Forest Service
-  BLM
-  State of Utah
-  Private
-  Major road
-  Other road
-  Perennial stream
-  Intermittent stream
-  Water body

**Ownership and Acreage
In Treatment Area:**

BLM	55,039
Private	40,000
State of Utah	3,765
Total	98,804
Treated	49,404



Map Scale 1:100,000
(1 inch = 1.6 miles)



UDAF GIS September 2006

Invasive Pest Detection and Eradication

- Quarantines
- Inspections
- Detection Networks
- Target High Risk Areas
- Taxonomic Support
- Effective Traps and Lures
- Partnership

Acknowledgements

- Ryan O'Shea – Utah Department of Agriculture and Food
- Greg Abbott – USDA APHIS-PPQ
- National Agricultural Pest Information System (NAPIS)